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A NEW MYRMECOPHILOUS SCARABAEID BEETLE  
FROM THE PHILIPPINE ISLANDS  
WITH A REVIEW OF *HAROLDIUS*<sup>1</sup>

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I have recently received from Dr. P. J. Darlington a short series of a scarabaeid beetle of the genus *Haroldius* from the Philippines. According to Dr. Darlington, who collected them, "All 6 specimens of the beetle were taken in one nest of ants under a stone in forest. Dr. W. L. Brown tells me that the ant is a *Diacamma* of the group *vagans* F. Smith of the tribe Ponerini." The specimens are markedly different from *Haroldius globosus*, the only species of the genus previously known from the Philippines.

Dr. Darlington has kindly donated two of the specimens to the Departamento de Zoologia; one of these has been dissected and upon examination of the genitalia proved to be a female. No sexual dimorphism being apparent in undissected specimens, I have decided not to attempt a study of the male genitalia until more material is available.

***Haroldius philippinensis*, n. sp.**

(Figs. 1-10)

Length: 3.5-4.0 mm.; humeral width: 2.5-3.0 mm.

Shape oval, broadest at middle of elytra; color black with brown overtones on anterior margin of clypeus, sides of elytra, legs, and under parts of body.

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Head: Clypeus (fig. 2) finely punctate, more densely so in front, its anterior margin with sharp parallel denticles separated at base by a well-defined longitudinal sulcus. Genae separated from clypeus by one well-defined sulcus, not denticulate in front; posterior angles acute. Dorsal aspect of eyes small. Mouth-parts (figs. 1, 4) with 4-segmented labial palpi; first segment short and robust; second shorter and thinner than first; third as long as first plus second, thicker than either, oval-shaped; all three proximal segments with bristles; fourth segment thin and short. Maxillary palpi also 4-segmented; first segment very short and thin; second much longer than first, apically dilated; third with sub-parallel sides, a little longer than first, as thick as apex of second; fourth much longer than three proximal ones together, a little thinner than third, narrowed towards tip. Antennae (fig. 3) 8-segmented, first segment much longer than four next ones together, with a median constriction; second and third sub-equal, sub-cylindrical, third somewhat dilated towards apex; fourth and fifth sub-equal, shorter than third, wider than long; sixth to eighth forming lamellae of decreasing size, of which first is much longer than third to fifth segments together; second lamella sub-equal to first; third lamella much shorter.

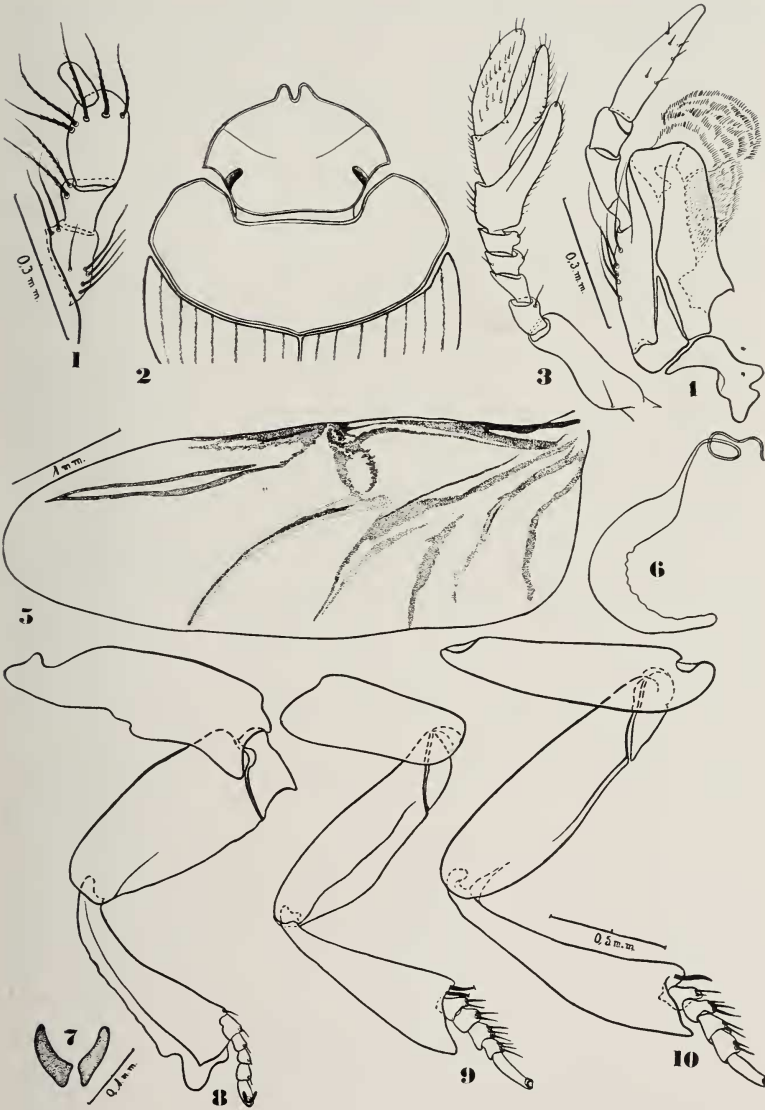
Prothorax: pronotum (fig. 2) much broader than long, smooth, with a series of elongate punctures near posterior angles, vanishing towards middle; a small round fovea in front of each posterior angle; no foveae on sides; anterior angles rounded, posterior poorly-defined. Anterior part of prosternum with a deep depression, separated from posterior part by a keel which runs from near coxae to lateral margin of prosternum; prosternal process very wide, smooth.

Mesothorax: Scutellum completely covered by elytra; its anterior part opaque, with numerous punctures and small bristles; posterior part triangular, smooth. Mesoster-

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EXPLANATION OF PLATE 1

*Haroldius philippincensis*, n. sp. 1. Labial palpi. 2. Dorsal view of head and pronotum. 3. Antenna. 4. Maxillary palpi. 5. Wing. 6. Spermatheca. 7. Claws (much enlarged). 8. Foreleg. 9. Middle leg. 10. Hind leg. Figs. 3, 4, 6, 8, 9, 10 on the same scale.



PEREIRA — HAROLDIUS PHILIPPINENSIS

num smooth, very wide and long, separated from metasternum by an arcuate suture. Mesoepisterna broad, subquadrangular.

**Metathorax:** Metasternum smooth, very broad between coxae, a little swollen on middle. Metaepisternum wide in front, narrower behind.

**Abdomen:** Six segments visible at middle, finely punctate; second, third, and fourth segments sub-equal; fifth much longer than fourth; sixth still longer. Posterior sternites with round marginal foveae. Pygidium swollen, with small punctures (visible only under strong magnification); its basal portion weakly emarginate.

**Elytra** smooth, with seven very weak, not obvious striations, which are not punctate. Interstriae flat, with two rows of pits with microscopic yellow bristles, effaced posteriorly. Anterior angle of elytra acute, produced forward. Epipleurae very wide, with very fine punctures on anterior half, more strongly sculptured posteriorly.

**Forelegs:** Coxae (fig. 8) long, transverse, with very fine, short pubescence. Trochanters sub-globose, dentate at internal apices. Femora robust, with punctures and small bristles on under surface of apex; anterior face strongly excavated along its entire length. Tibiae a little longer than femora but more slender; thinner basally, gradually dilated apically; only two latero-apical spines and one angular process on middle of anterior margin; upper and lateral faces very finely sculptured and with microscopic bristles; inner and outer faces with somewhat larger bristles. Spurs very short and thin, bristle-like. Tarsi set in foveae at inner corners of tibiae; first segment small, partly hidden in the fovea, so that sometimes only four segments are visible; second, third and fourth segments sub-equal, four-sided, elongate, curved, with narrow tips; fifth segment a little longer than third plus fourth, ending in two short, robust claws.

**Middle legs:** Coxae (fig. 9) smooth, widely separated, almost parallel (slightly convergent backwards). Trochanters small and elongate. Femora less robust than anterior ones. Tibiae shorter than femora, and much more dilated towards apex, with very minute yellow bristles on upper and lower faces; inner faces with bristle-bearing keels;

outer faces strongly excavated. Spurs minute, bristle-like. Tarsi robust; first, second, and third segment sub-globose, slightly dilated on inner side; fourth segment more cylindrical, a little longer than any of others; each of four basal segments with an internal tuft of bristles; fifth tarsal segment thinner than others, cylindrical, narrower at apex, a little longer than third plus fourth. Claws similar to those of forelegs.

Hind legs: Coxae (fig. 10) long, transversely placed. Trochanters more triangular than middle ones, with some bristles. Femora much longer than middle ones; under surface smooth; one keel on anterior margin; posterior face excavated. Tibiae much shorter than femora, less dilated towards apex than middle tibiae but more strongly arched. Spurs bristle-like. Tarsi similar to those of fore — and middle legs.

The present species can be distinguished from *Haroldius globosus* by the following table:

<i>H. philippinensis</i> n. sp.	<i>H. globosus</i> Boucomont 1925
Larger (3.5-4.0 mm.)	Smaller (2.0 mm.)
Black with brownish overtones on front of clypeus, elytra, under parts, and legs	Metallic green with a slight purplish sheen
Elytra pubescent, with striae visible on anterior half and effaced posteriorly	Elytra glabrous, with striae effaced on disc

Type-locality: Dingalan Bay, East Luzon, Philippine Islands.

Type-material: Type and 3 paratypes in the Museum of Comparative Zoology at Harvard College; 2 paratypes (one dissected and mounted on slides) in the Departamento de Zoologia, São Paulo. All collected by P. J. Darlington (VII-VIII, 1945) at the type-locality, in a nest of ants of the genus *Diacamma* (group *vagans* F. Smith, Ponerini).

This genus is scarce in collections. The biology of the species is poorly known. Some of them have been found in ant nests (*H. heimi* with *Pheidole latinoda*, the present species with *Diacamma*). *H. perroti* has been collected with numerous specimens of *Bacanius* (Coleop., Histeridae) by sifting dead leaves.

A list of the species of *Haroldius*

Type of genus: *H. fairmairei* Bouc., by designation of Paulian 1945, 58.

1. *H. calcaratus* Janssens 1934, 33, figs. 1-2. Barway (India).
2. *H. cardoni* Boucomont 1923, 83; Arrow 1931, 414; Paulian 1934, 164. Chota Nagpur.
3. *H. chapmani* Paulian 1934, 163. Bangalore.
4. *H. fairmairei* Boucomont 1914, 254; Paulian 1934, 164. Singapore.
5. *H. fleutiauxi* Paulian 1945, 60. Tonkin.
6. *H. globosus* Boucomont 1925, 151. Philippines.
7. *H. heimi* Wassman 1918, 4, pl. 1, fig. 1 (*Cyclotrogus*); Arrow 1931, 414-415; Paulian 1934, 164. (Syn.: *Cyclotrogus nigrita* Wassman *loc. cit.*). Bengal; Bombay.
8. *H. oberthüri* Paulian 1934, 163. India.
9. *H. perroti* Paulian 1939, 70; 1943, 262, fig. 132; 1945, 160. Tonkin.
10. *H. philippinensis* n. sp. Philippines.
11. *H. rugatulus* Boucomont 1914, 253; Paulian 1934, 164. Singapore.
12. *H. stevensi* Arrow 1931, 414, 416, fig. 60; Paulian 1934, 164. Bengal.

*Ponerotrogus annandalei* Silvestri 1924 (Rec. Indian Mus. 26, p. 586, figs. 1-2), collected by Annandale in a nest of *Ponera tesserinoda* Mayr [now = *Bothroponera sulcata* (Frauenfeld)], under stones on the Barkuda Islands, Chilka Lake, seems to have characters similar to those of *Haroldius*; the two genera are possibly synonymous.

Provisional key to the species of *Haroldius*

1. Clypeus not emarginate, with no denticles on anterior margin; middle and hind spurs longer than four basal tarsal segments together; meso-metasternal suture straight; anterior tibiae quadridentate; 2.5 mm.; Barway ..... 1) *H. calcaratus* Janss.
- 1'. Clypeus dentate; middle and posterior spurs short, only longer than first tarsal segment; meso-metasternal suture arcuate ..... 2

2. Basal portion of pronotum with a central triangular depression . . . . . 3
- 2'. Basal portion of pronotum without such a depression. 5
3. Sides of pronotum with oblique striae near posterior margin; 2.5-3.0 mm.; Bombay . . 2) *H. heimi* Wassm.
- 3'. Sides of pronotum punctate, not striate . . . . . 4
4. Large, 3.5 mm.; Bengal . . . . . 3) *H. stevensi* Arr.
- 4'. Small, 1.5 mm.; Singapore . . . . 4) *H. fairmairei* Bouc.
5. Bases of pronotum with oblique striae . . . . . 6
- 5'. No such striae . . . . . 7
6. Elytral interstriae each with one row of setiferous punctures; fore part of body cupreous, hind part black; 2 mm.; Tonkin . . . . . 5) *H. fleutiauxi* Paul.
- 6'. Interstriae each with two rows of setiferous punctures; black or brown; 2.5 mm.; Singapore . . . . . 6) *H. rugatulus* Bouc.
7. Elytra glabrous . . . . . 8
- 7'. Elytra pubescent . . . . . 9
8. Elytral striae almost effaced on disc; metallic green with slight purplish sheen; 2 mm.; Philippines . . . . . 7) *H. globosus* Bouc.
- 8'. Elytral striae evident even on disc; upper parts brown or cupreous; under parts lighter; basal part of antennae grayish; 1.9 mm.; Tonkin . . . . . 8) *H. perroti* Paul.
9. Elytral interstriae each with one row of setiferous punctures; 3 mm.; Chota Nagpur . . . . . 9) *H. cardoni* Paul.
- 9'. Interstriae each with two rows of setiferous punctures . . . . . 10
10. One longitudinal sulcus immediately behind anterior denticles of clypeus; 3.5-4.0 mm.; Philippines . . . . . 10) *H. philippinensis* n. sp.
- 10'. No such sulcus . . . . . 11
11. Clypeus with strong, dense punctures; pronotum with strong, dense punctures on anterior half, and fine, scattered ones on posterior half; 3 mm.; Chota Nagpur . . . . . 11) *H. chapmani* Paul.
- 11'. Clypeal and pronotal punctures fine and sparse; 2.5-3.0 mm.; Chota Nagpur . . . . 12) *H. oberthüri* Paul.

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